

1964

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Europe, was suggested today by Portugal's new Ambassador to the United States, Dr. Vasco Vieira Garin.

Declaring that communism is a "world-spread danger" and that the Communist offensive should be fought on a worldwide basis, the Portuguese envoy told the New Bedford (Mass.) Standard-Times: "A convenient revision of alteration of the Atlantic Alliance objectives and scope would perhaps be the proper answer."

Dr. Garin, who assumed his post officially last April 8, after 8 years as Portugal's Ambassador to the United Nations, discussed various aspects of a United States-Portuguese relations in a wide-ranging exclusive interview. Although these relations have been somewhat strained in recent years, the Ambassador said differences of opinion between the respective governments over such matters as Portuguese Africa do not present an "unapproachable difficulty."

He also saw several "important implications"—none of them detrimental to the American position or interests—in Lisbon's recent grant of facilities in the Azores to France for scientific experiments, primarily for the French rocket program. Dr. Garin said the Franco-Portuguese agreement constitutes the first instance where a "great continental European nation has shown interest in the Azores position in the middle of the Atlantic."

The Ambassador said the working arrangement whereby the United States presently uses air bases in the Azores is not affected by the grant to France. The United States has continued to use these facilities on a temporary basis since the expiration of a United States-Portuguese agreement in 1962. Renewal negotiations have proceeded slowly against the backdrop of the U.S. refusal to support Portugal's hold on its African territories.

Dr. Garin said the agreement with France, interpreted in some quarters as a retaliatory slap at the United States, actually enhances the value of the "concessions" Portugal has been granting the United States in the Azores and underscores the "great Atlantic importance" of the territories.

He has already started making plans to visit "my good friends of Portuguese extraction" in New Bedford and elsewhere in the country. He added that he expects to be "rather active" with his visits to the Portuguese-American community during the summer months. At the moment, however, he is busy with what he calls the "indispensable first contacts" that must be made in Washington. Following are some of the significant questions directed at Dr. Garin and his replies:

Question. How would you characterize United States-Portuguese relations today?

Answer. We continue to work within the framework of the traditional friendship and cooperation which has always existed between our two countries, but you might say that in the last few years—and most specially at the forum of the United Nations—our respective Governments have not expressed identical views in regard to African problems in general, and Portuguese African in particular. But this does not signify at all that we regard such a difference of opinion on specific topics as an unapproachable difficulty. As you know, a very important segment of the well-informed public opinion in this country disagrees fundamentally with the double standard adopted by the ONU (United Nations) in relation to Portugal.

Unquestionably, great interests are at stake in this issue, namely the preservation of an area of peace and harmony, represented by the Portuguese overseas provinces, in the midst of a continent now mostly torn by political, economic, and social chaos and conflicts, and the preservation of a genuine multiracial society, such as it truly exists in the Portuguese territories. When most of

the African continent has gone either unfriendly neutral toward the West or openly sympathetic to Communist influence, we feel that our position becomes more valid and quite understandable, even to the skeptic ones.

Question. What action, on our part, would contribute most to an improvement in our relations?

Answer. Evidently, it would be presumptuous of me to counsel thoughts and actions to our American friends. We have faith in our friends and we trust their good intention. But I can say frankly what we hope: We hope that in the future our position will be better understood by our friends and allies; we hope that the moral values we uphold in our multiracial policy in Africa will be properly weighed; and we also hope that the tremendous and constant efforts of development—economic, social, and political—which we are carrying out in Portuguese Africa will be appreciated. There is no genuine movement of the so-called native nationalism in any of the Portuguese overseas provinces, and this truth has been verified once and again by hundreds of responsible foreign observers. And yet, many of the preconceived African nations held by certain persons and institutions against Portugal are based on the fallacy of such a concept. For once, however, it has been simply reported that the most publicized terrorist leader, principally responsible for the Angola massacres of 1961, has definitely taken off the mask and showed himself a tool of international Communist subversion.

Question. What is your Government's attitude toward suggestions that the Atlantic Alliance be substantially revised or altered, as to objective and scope of the effort to contain the Communist offensive?

Answer. Regarding NATO, we believe that the alliance was most successful as a deterrent to Communist aggression in Europe. Now that Europe has been made strong, communism seems to be making its greatest efforts outside Europe—in Africa, Asia, and Latin America. To face these new dangers, the West has not been able to devise a coordinated system of defense. A convenient revision or alteration of the Atlantic Alliance objectives and scope would perhaps be the proper answer. Communism is a world spread danger and the Communist offensive should, therefore, be fought on a worldwide basis. In this context, recent events in Africa should give food for very serious thought.

Question. What are the implications of the agreement of April 7 between Portugal and France providing France with a base and facilities in the Azores for scientific purposes? Do you see anything detrimental to U.S. interests in connection with the Azores deal with France? How solid are the United States-Portuguese arrangements in the Azores?

Answer. There are two or three important implications. Although the facilities were given to France for scientific purposes, it is the first time that a great continental European nation has shown interest in the Azores position in the middle of the Atlantic. This is only proof of the revival of Europe, which is full of meaning for the future of a healthy Euro-American partnership. Also, it was again shown how conscious Portugal is of her international responsibilities for the reinforcement of the Atlantic Alliance and of the defense of the West. Therefore, nothing detrimental, much to the contrary, arises from the Franco-Portuguese agreement, to the American position or interests. The new agreement, by emphasizing the great Atlantic importance of the Azores, implicitly gives still more value to the concessions we have been granting there to the United States. The conditions by which the United States uses at present the bases in the Azores, and the working arrangement which is in effect for that purpose were not affected.

The Electronic Engineer

EXTENSION OF REMARKS

HON. WILLIAM F. RYAN

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 12, 1964

Mr. RYAN of New York. Mr. Speaker, I wish to bring to the attention of my colleagues an interesting article on the future of electronic engineers, which appeared in the April 1964 edition of *Electronic Industries*, by Sidney Feldman, associate editor:

WHERE ARE ELECTRONIC ENGINEERS GOING?
(By Sidney Feldman)

Once again engineers and technologies are being phased out as defense and aerospace contracts decline, while cries of engineer shortage change color to engineer surplus.

The engineer strata within electronic-aerospace fields have long been thought of as being full of ambiguities and imbalances. Line technicians sometimes are lumped in with graduate engineers in surveys and census data, while graduates often do work ordinarily left to technicians. With cutbacks in aerospace and defense contracts mounting, engineers may find themselves in an overcrowded market in one area, while other U.S. regions still claim engineer shortage.

Personnel heads observe that technical people are busily crossing three vocational bridges. First: some draftsmen and technicians gain enough on-job experience and off-job study to qualify as engineers." Second: many graduate engineers move into higher-paying, higher-level jobs in management and marketing. Third: there is a big surge of engineers and scientists going back to school for advanced study.

For these reasons there are about a dozen different definitions of engineer which range from technician through salesman to scientist. Hence, one engineering society official complains that National Science Foundation statistics about engineers may be only 56 percent accurate.

MANY ARE SALESMEN

Several thousand engineers now are salesmen for electronic companies. Such engineers may be manufacturers' representatives, or may work for the companies. Thousands of other engineers hold management jobs from president through to purchasing director.

Greater numbers of engineers will continue to join marketing and management ranks for higher pay, greater prestige, and maybe more job security. Engineers also are becoming consultants, working for themselves or for firms, for banks, or investment houses.

Most engineers who have decided to stay in engineering are participating in a mass "intellectual retooling" movement.

"Rehabilitation of engineers with obsolete skills is the most serious problem in engineering today," says Donald Garr, director of engineering, Rathenon Corp. He cites a surplus of engineering technicians in the Boston area, but suggests a shortage of engineers trained in new defense and aerospace technologies. Demand for engineers is changing mainly from narrow components and equipment specialists to broad systems and interdisciplinary generalists.

FIRMS HAVE IN-HOUSE SCHOOLS

Many companies conduct in-house classes. Arma Division of American Bosch Arma Corp., Garden City, N.Y., teaches its engineers about subjects ranging from microelectronics to systems engineering theory and application. General Precision Aero-

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space teaches engineers at the firm's plant in Little Falls, N.J., and sends engineers to Brooklyn Polytechnic Institute, with credits applicable toward advanced degrees in systems engineering. These examples are only a few among many.

At Illinois Institute of Technology, Bell Telephone Co. engineers from 14 States and Canada are preparing for the satellite communications era. More than 1,500 selected trainees, mostly graduate electrical engineers, may be trained in electronic advances over several years. There are many other such programs.

Underlying this need for reeducation are two fundamental forces. One is the cumulative effect of new technologies, largely sponsored by Federal researches. The other is the need to develop a new breed of engineer for our evolving aerospace age.

NASA now underwrites grant programs in educational institutions for facilities, training and research, especially at the graduate level. This program, started in 1962, now has nearly 900 graduate students attending 88 schools. For the academic year 1964-65, NASA extends grants to nearly 1,100 students working on doctoral degrees in space-related fields at 131 colleges and universities in 47 States. The National Science Foundation also supports broad technical education and reeducation programs.

A MIXED SITUATION

At best, electronic engineer employment presents a mixed situation; it varies from company to company sooner than from area to area. On the west coast, more than 500 engineers (who may have included technicians) were laid off by Boeing when the Dyna-Soar program was canceled. Yet, Boeing is completing a \$16 million aerospace research center. Engineer employment has been high at North American Aviation in California. This firm holds contracts ranging from disarmament studies to modules for the Apollo man-to-moon project.

Lockheed Missiles & Space Co., also in California, is phasing out operations at Van Nuys and transferring some employees to its main plant at Sunnyvale while laying off others because "there isn't enough aerospace ground equipment business."

In the East, RCA let go about 750 scientists and engineers in the Camden-Moorestown, N.J., area (near Philadelphia) during 1962 and 1963. Some were rehired at RCA plants elsewhere. Out on Long Island there is a glad and sad story for engineers in two towns. At Bethpage, Grumman Aircraft Engineering has been hiring scientists and engineers for the orbiting astronomical observatory series, and as subcontractor for Apollo lunar excursion modules.

Next door at Farmingdale, however, Republic Aviation may phase out F-105 aircraft production by his fall. Indicative of this mixed situation, Republic has transferred and fired aircraft engineers. It has hired still other engineers for its aerospace research and development center and electronics products division.

Incentive contracts are said to be discouraging any artificially inflated demand for stockpiled engineers paid for by cost-plus Government contracts. As an argument, DOD refers to the "importance of the profit motive as incentive to improve performance and to lower costs."

U.S. FUNDS BACK MOST ENGINEERS

About 76 percent of all engineers and scientists employed by the electronic industries are supported by Government funds, based on a 1961 survey by Electronic Industries Association (EIA) and the Defense Department.

This report cites about 155,000 engineers and scientists performing all types of electronic work. Of these, 128,000 or 83 percent work for industry, while 8 percent work for the Federal Government. Another 5 percent

do research for universities and nonprofit organizations—mainly for Government. The remainder includes consultants, engineers, and scientists between jobs, and those not identifiable by specific activity.

DOD says it will brief industry representatives in classified advanced long range development plans on electronics, command and control, missiles, nuclear products, and research. Apparently, it then remains for defense-aerospace contractors to adjust their future needs for plant and personnel accordingly.

Certain trends now indicate where engineers are going in the intermediate transition period, and for the longer run. Currently, two types of personnel adjustments are being made.

Contractors first may phase out production workers. Then cancellations or cutbacks may be used to excuse the phasing out of unproductive graduate engineers or nongraduate engineers, either of whom may be doing technicians' work. However, vital scientists and engineers are kept on "because they were hard to get in the first place and because keeping a nucleus of key technical personnel gives a firm the best gambit for getting new contracts."

SOME SWITCHING TO CIVIL SERVICE

Some scientists and engineers are switching from indirect civil service, with Government contractors, to work directly through the U.S. Civil Service. Noteworthy, stricter standards for Federal Government engineering jobs involving health, safety, and welfare, will require an engineering degree or professional registration after July 1964.

By 1970 engineer surplus once again may become severe engineer shortage, according to a recent National Science Foundation report. NSF charts about 250,000 unfilled jobs for scientists and engineers, many in electronic fields.

Total annual increased demand for technical people may run about 101,200 by 1970, says NSF, while the supply rises only about 78,500. In electrical equipment manufacturing, about 100,000 new scientific and engineering jobs will open, including replacements. This report anticipates engineering manpower shortages causing postponed or canceled projects and programs, delays, more inefficiency and higher costs.

NSF calls for increased student enrollments and further inducements for graduates to remain as engineers. And, like the same old story in the past, employers again may resort to the good old days of pirating and mounting wages and salaries for scientists and engineers.

"Scientists, Engineers, and Technicians in the 1960's—Requirements and Supply."

Viet Blame Chargeable to McNamara

EXTENSION OF REMARKS

OF

HON. CHARLES S. GUBSER

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 12, 1964

Mr. GUBSER. Mr. Speaker, recently Brig. Gen. S. L. A. Marshall wrote an article which was printed in the San Jose Mercury for Saturday, April 25, under the headline "Viet Blame Chargeable to McNamara." General Marshall is an excellent military student, is highly respected and not given to snap judgments. His views are worthy of the consideration of the entire Congress.

The article follows:

VIET BLAME CHARGEABLE TO McNAMARA

(By Brig. Gen. S. L. A. Marshall)

Several days ago I went over a file of correspondence from senior Army officers serving in the field in Vietnam, away from Saigon.

These were private letters, not intended for official scrutiny. Without exception, they were deeply reflective, and though the individuals were remote from one another, being in different corps commands, with no opportunity to compare experience, they were remarkably together in their conclusions.

Bafflement, rather than pessimism, was the tone. They could see that the war was not being won. It disturbed them more that they could not understand why and therefore were unable to suggest where correction should start.

The consensus was that the average Viet soldier was sufficiently able and courageous to best the Cong. But his army displayed a notable reluctance to close with the enemy. Their guess was that the main block lay in the attitude of junior officers, who were not so much disaffected as disgusted. These were curbstone opinions after random observation; the Americans simply didn't know.

The American correspondent who cables from Saigon that over the countryside public sentiment is about 20 percent actively with the guerrilla cause and 20 percent actively with the regime, while majority opinion is approximately nowhere, is also shooting in the dark. But it is a shrewd psychological assessment indicating nothing abnormal in the Vietnamese character.

Any national or racial group, thus heavily beset would react little different; the contest is carried by small minorities, while in between lies an amorphous mass concerned with tomorrow's dinner and the avoidance of involvement. To deplore that majorities nowhere have strong ideological motivation is a waste of breath.

But one must deplore that U.S. operations in Vietnam are handicapped by greater obscurity than any heretofore known, because that is somebody's fault. To blame the mysterious nature of the enemy is idle; the enemy is always mysterious in war and it is ever necessary to grope toward him through fog, knowing but half of the problem. There is, on the other hand, no excuse for ignorance about one's own forces, resources, and dispositions.

So who is responsible? More insistently, more dramatically, than any civilian administrator has ever done in prior military undertakings by the United States, Defense Secretary Robert McNamara has identified himself with the overall conduct of operations in South Vietnam. It is not called the McNamara war but he has so personalized his direction of it by his pronouncement of the buildup, his four troubleshooting trips, and his recent declaration of intent to carry on until victory that the label fits.

As an aside, it is somewhat of an irony that this mismanaged affair rubs off none whatever on the principals who have steered the main decisions. Secretary McNamara, though a Republican, is being mentioned as a vice presidential possibility on the Democratic ticket by columnists who like to play kingmaker. According to the Gallup poll, Ambassador Henry Cabot Lodge has spurred far ahead of other GOP hopefuls. So we may take it that these two strategists in civilian pants are seen in a heroic light by their countrymen while Senator J. WILLIAM FULLER BRIGHT blasts the military for bungling and "splendid indifference" to the national economy, failing to note that the shape of the armed establishment is hand tailored by his friend, Mr. McNamara. How unfair can you get?

Well, you can be a little worse than that.

All along Mr. McNamara has badgered his military subordinates for not providing him

with a "data basis" to illuminate decision-making in the Vietnam involvement. That term is something to pound the desk about, just like "cost accountability." So having demanded that which is still lacking, he should be in the clear, provided the fault is chargeable to the stupid military rather than to his own office.

But that isn't so. Mr. McNamara is himself to blame. Both in strategy and in tactics, the responsibility for the organization of data to guide decision must rest in the same chair where decision is made. A moment's reflection will show why. At no other level can there be complete understanding of what kinds of data are needed.

Secretaries like George C. Marshall, Robert F. Patterson, and Henry L. Stimson well understood this principle and applied it. Mr. McNamara cannot understand it because he has never shared in fighting operations. He is a businessman, fond of computers, which unfortunately do not crank out research data.

Data required for strategic guidance is of multifarious variety. It would perforce include an exacting scrutiny of everything transpiring in the forward zone, the nature of the warfare, weapons effects, supply levels, conservation, communications failures, the morale of forces, the attitude of command, the use and adjustment of indigenous labor, the orientation of training, and the relationship between paramilitary forces and regulars.

But that is just a beginning. The ebb and flow of the national economy, shifts in population, interior police statistics, political undercurrents, and the moral response of people to the strategic hamlet concept are highly relevant areas.

No military officer may develop such a body of data. If Mr. McNamara wants only that which should lie within their competence, he is thinking at a tactical level. But few professionals have even this sort of expertise. It isn't a normal part of training. There are available specialists—a very few—who know this field. Mr. McNamara will not seek their help, being a desk pounder, satisfied with his own image of infallibility.

TXF Design Alarms Navy

EXTENSION OF REMARKS

OF

HON. H. R. GROSS

OF IOWA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 12, 1964

Mr. GROSS. Mr. Speaker, the assurances given by Secretary of Defense McNamara regarding the performance of the proposed TFX fighter plane, as scheduled to be produced by the General Dynamics Corp., of Ft. Worth, Tex., are again subject to serious question, according to a recent issue of Aviation Week.

Writing in Aviation Week, Mr. George C. Wilson says the Navy has become so alarmed about the weight and drag of the TFX as it is scheduled to be produced by General Dynamics that it is giving consideration to withdrawing from the fighter-bomber program.

Under leave to extend my remarks I insert herewith Mr. Wilson's article in Aviation Week:

F-111 WEIGHT, DRAG INCREASES ALARM NAVY—SERVICE MAY QUIT PROGRAM UNLESS DESIGN CHANGED; McNAMARA DENIES SERIOUS DEVELOPMENT PROBLEMS

(By George C. Willson)

WASHINGTON.—Navy is so alarmed about the increasing weight and drag of the General Dynamics F-111B that it may withdraw from the biservice tactical fighter-bomber program unless Defense Secretary Robert S. McNamara allows substantial design changes.

Either course would be distressing to McNamara, who has claimed the greater uniformity in the General Dynamics Navy and U.S. Air Force versions of the F-111 (TFX) will save the taxpayers \$1 billion—a claim challenged by the former F-111 project officer who did the arithmetic.

Albert W. Blackburn, who concentrated on achieving commonality in the F-111 designs while with the Defense research and engineering office, said his "rough estimate" of the \$1 billion saving was made before any contractors had submitted bids (AW May 27, 1963, p. 32).

Shortly after Navy Secretary Paul H. Nitze took office last November, he asked for a briefing on the F-111B. The analyses were so pessimistic that some officials in the Bureau of Naval Weapons and in the Navy air staff recommended getting out of the program. But top Defense Department officials persuaded Nitze to wait until more hard facts were in.

Pessimism about both Air Force and Navy versions of the F-111 is concentrated mostly at the lower levels of the Defense Department where the analyses of the performance and cost of the aircraft are actually being done. The pessimistic reports contrast with rosy public statements by McNamara, Nitze, Air Force Secretary Eugene M. Zuckert, and General Dynamics spokesmen who insist the development program is going along splendidly. At his March 5 news conference, McNamara said the Navy was not showing any reluctance to buy the F-111, and added that the weight problems "don't appear serious."

Top-level Navy assessment of these conflicting reports is scheduled for mid-July when enough information will be on hand to indicate just what the Navy should do. In advance of this reappraisal, a variety of studies are being conducted by General Dynamics and its chief subcontractor, Grumman, by the Defense Department research and engineering office, and by the Air Force and Navy. These studies range from how to overcome such technical difficulties as excess weight and drag to a cost-effectiveness study of the F-111 as a weapon.

All this is being done in such a highly charged political atmosphere that few people are willing to talk about it for attribution. They know Senator JOHN L. McCLELLAN, Democrat, of Arkansas, is looking over their shoulders and will make capital out of their difficulties when his investigating subcommittee resumes hearings on the F-111 award.

So the strategy of McNamara, Nitze, and Zuckert is to minimize the development difficulties in public in hopes they can be solved in private. General Dynamics is assuming the same posture while Grumman, whose reputation for building superior Navy aircraft also will be affected by the F-111B, portrays itself as merely a subcontractor which cannot speak out.

Adding fuel to the dispute is the fact that the USAF Aeronautical Systems Division has awarded Boeing, whose loss of the F-111 contract started all the controversy, a contract to study what aircraft should be the follow-on to the F-111. It is really unrelated to the current F-111 fight, but will not be viewed that way by Members of Congress

trying to prove McNamara should have given the F-111 contract to Boeing in the first place, as both the Air Force and Navy recommended.

Most worrisome of the development problems to the Navy is the weight of the F-111B. Navy originally hoped to keep the aircraft to about 50,000 pounds. This early goal was raised to 55,000 pounds and mostly recently to 63,500. But the most recent weight estimate is about 70,000 pounds, with predictions that the ultimate weight of the F-111B may be as high as 75,000 to 80,000 pounds.

Compounding the weight difficulty is more drag than the Navy and the contractor originally anticipated—about 2 to 3 percent more according to Navy estimates. General Dynamics declined to comment on this figure, but said the application of the area rule on the fuselage had been modified to decrease the drag. Also, the company said it had designed a cleaner canopy for the F-111.

Pessimists predict that these weight and drag increases threaten to produce marginal performance and an aircraft too heavy for Navy carriers. Also Navy officials assert that even if the weight is reduced through emergency measures, the resulting aircraft will not have the growth capability that the military always desires.

A General Dynamics spokesman at Fort Worth, Tex., plant where the F-111 is being built admitted the weight problems, but said they could be overcome. He said one solution is to add more titanium to the aircraft, although not in the stress-bearing areas. He predicted the resulting aircraft will meet the specifications, and said that General Dynamics already had achieved 6 of the 12 development milestones for the F-111. After its July assessment of the F-111B, the Navy is expected to take one of these courses:

Accept the aircraft as configured at that time.

Wait until after the first F-111A flight—expected in December or January—before making a decision.

Insist on only slight changes, such as dispensing with some of the avionics needed by the Air Force but not the Navy to make the aircraft lighter.

Demand major design changes to correct weight, drag, and lift shortcomings.

Elect to withdraw from the F-111 program altogether on grounds the investment is not justified in terms of either performance or cost.

Either of the last two courses would be objectionable to McNamara because of the stress he has placed on "commonality." The Defense Secretary told the Senate Permanent Investigating Subcommittee that a major reason for choosing General Dynamics was that its design had more areas of Air Force-Navy commonality than the Boeing proposal (AW Mar. 25, 1963, p. 81).

But political developments could make either of those last two actions more palatable at a later date. If President Johnson is elected, McNamara will not necessarily remain Defense Secretary. And if a Republican is elected, the whole F-111 program will be reviewed by the new administration.

All this makes any long-range prediction for the Navy F-111B extremely risky. It would appear that only compelling technical difficulties would prompt Nitze to take any drastic action on the F-111 before the November elections. The July reappraisal is expected to show whether these difficulties are in fact compelling, as some of his technical advisers insist. In short, Secretary Nitze must make his command decision soon on the F-111.

Is National Water Crisis Just Around the Corner?**EXTENSION OF REMARKS**

OF

HON. JOHN D. DINGELL

OF MICHIGAN

IN THE HOUSE OF REPRESENTATIVES

Tuesday, May 12, 1964

Mr. DINGELL. Mr. Speaker, pursuant to permission granted, I insert into the Appendix of the CONGRESSIONAL RECORD a provocative article from the Tuesday, May 5, 1964, edition of the Detroit News on the impending water shortage crisis and pollution problems in America today.

This article discusses in some detail the lack of proper water conservation practices employed by responsible authorities and the continuing use of our streams and rivers as disposal areas for dangerous chemicals, detergents, radioactive wastes, untreated sewage, and the many other wastes from construction and industry operations. Attempts have been made to rectify the water shortage and pollution problems, and other large-scale plans are presently under consideration, but general public and congressional apathy toward effective measures to prevent further pollution and promote water conservation has been a major obstacle. Frequently, it has only been where citizens were forced to take positive action because of a critical water shortage that any constructive work in this field has been done.

Presented in this article is a list of areas in America where water problems are most pressing, and it is, indeed, an impressive one. It serves as a warning to every American. Enactment of proper and effective legislation to avert future water shortage and pollution problems is a goal that should receive the serious and active support of all.

The article follows:

IS NATIONAL WATER CRISIS JUST AROUND THE CORNER?—DRASTIC CONSERVATION CONFRONTS UNITED STATES, EXPERTS AGREE

WASHINGTON, May 5.—Growing water shortages—definitely a nationwide problem—can be licked only by costly, drastic water conservation efforts in the next decade.

As the population mushrooms (Census Bureau estimates put the U.S. total at 325 million by the year 2000) and industries expand, more and more fresh water will be needed.

Symptoms of acute national dehydration and pollution are already a part of American way of life:

Drawing a glass of water in Babylon, Long Island, a housewife ends up with a two-inch head of foam. It looks like a glass of beer but it has an oily, fishy taste.

Towns along the Animas River in Colorado and New Mexico, where a uranium mill dumps its wastes, learn their drinking water contains 40 to 160 percent more than maximum safety levels of radioactivity.

Gas bubbles rise from the bottom of the Missouri River below Sioux City, Iowa, where a packing house unloads tons of animal entrails. Some 75 miles downstream, Omaha uses the river as a source of drinking water.

For 140 miles downstream from Austin, Tex., where a chemical plant drops its wastes into the Colorado River, all fish die.

Steel mills at Youngstown, Ohio, using the Mahoning River waters to cool its furnaces,

raise the river's temperature so high in the summer that the water is rendered unfit even for cooling purposes.

Dwindling water supplies in Western States, a rapidly dropping water table in the Northern Plains and a salty taste in fresh water wells near the Texas coast partially indicate the extent of the problem.

The country's leading hydrologists agree that the country's water resources are abundant enough to handle future emergencies. But they stress that if a full-scale water crisis is to be avoided, proper research and positive management of national water resources must be substituted for present indifference on the part of the U.S. population.

Greater amounts of water will also be needed for flood control, pollution abatement, navigation channels, wildlife preservation, and recreational needs.

And overriding the basic problem of supply and demand is the ticklish question of water quality which has been plaguing scientists more and more over the last decade.

The late President Kennedy called the pollution situation "a national disgrace." "Pollution of our country's rivers and streams," he told Congress in early 1963, "has reached alarming proportions."

Presently, there is irrefutable evidence that the United States is poisoning its waters with chemical bug killers, quick-sudsing detergents, radioactive wastes, slaughter house remains, untreated municipal and industrial sewage, oil well brine, pulp mill acids, and tons of silt from highway and building projects.

Says Gordon McCallum, chief of the U.S. Public Health Service's division of water trial wastes clogging the water."

"In city after city, drinking water becomes less palatable as more and more chemicals are added to rid it of pollutants. Miles of stream, bays, and estuaries are lost each year to fish and wildlife, to fishing and swimming because of unsightly, smelly and actually dangerous sewage and industrial wastes clogging the water."

And Surgeon General Luther L. Terry notes:

"We are by no means sure that at least some viruses are not slipping through our present water purification and disinfection processes and entering our water mains. Hepatitis may be an example."

In Congress, the struggle for effective pollution controls has been an uphill affair. After guiding the Water Pollution Control Act through the House in 1953, Representative JOHN BLATNIK, Democrat, of Minnesota, noted:

"It was a forlorn, distressing experience. Schedule a hearing and three persons would show up. Leaders in both parties grumbled about that 'stinking sewer bill' and couldn't see what all the fuss was about."

The "stinking sewer bill" gave the Federal Government power to force cities and industries on interstate waterways to build treatment plants to eliminate dangerous wastes. Amendments passed in 1961 extended enforcement to all navigable waterways.

Enforcement actions have thus far been brought against over 250 cities, including New York, Pittsburgh, and Portland, Oreg., and also against several industrial plants.

Congress also tackled the water shortage problem. The Senate's Select Committee on National Water Resources, chaired by the late Robert S. Kerr, Oklahoma Democrat, released the results of a monumental 2-year study of the Nation's future water needs in 1961.

The committee reported U.S. water demands will double by 1980, triple by the year 2000. Right now, the country is using about half the water it can trap.

Price tag on the committee's proposed sweeping program of new dams and reservoirs and new industrial and municipal sewage works was \$54 billion.

It also noted that 5 areas in the country could run out of water by 1980 unless adequate steps were soon taken. The areas: the Upper Missouri River, the Upper Rio Grande and Colorado Rivers, the Colorado Basin, Lower California and the Great Basin between the Rocky and Sierra Nevada Mountains.

Early in April, the Senate Subcommittee on Western Water Development began evaluating a mammoth proposal to divert water from Alaskan rivers through Canada to the Southwestern and Midwestern United States. This is the distance from Sweden to Egypt.

This could fit hand-in-hand with a Corps of Engineers project now on the drawing boards to build the largest dam in North America at Rampart Rapids on the Yukon River in north-central Alaska. The Rampart dam would create a reservoir slightly larger than Lake Erie, the 12th largest inland body of water on earth.

The striking note about these two \$100 billion proposals is not their size, but the fact they're even being considered.

Americans have always taken for granted that the United States was blessed with a cheap, plentiful water supply. New demands for expanding industry and population, coupled with an unwarranted abuse of water and streams by pollution, should smash this smug attitude.

Industry, homes, and farms already use over 300 billion gallons daily. This figure will triple by the time that today's children are buying their own homes.

Building the dams and reservoirs to accommodate needed water is simple compared to the problem of acquiring the land to act as a giant saucer.

Particularly in New England and the Middle Atlantic States—where residents can trace their family real estate back for several hundred years—it is difficult to persuade families to give up their homes to build a dam.

Senator Kerr, was concerned about apparent public indifference to the water pollution problem. Shortly before his death, he told a banquet audience:

"I believe that if most of you got an analysis of the water you drink, you would be shocked and uneasy. The result might even drive you to drink—but not water."

One group which is not indifferent to water problems is the National Rivers and Harbors Congress, a nonprofit, nonpartisan national group which has been lobbying for an effective water policy for 63 years.

In the past, this group has had considerable success in creating awareness of water problems by local communities.

Several cities have developed water conservation systems on their own. In 1957 when water was selling at 50 cents for a half-gallon carton after a 6-year drought, Dallas citizens backed a water plan to build lakes and dams, complete and modern pump lines, and pumping stations.

Water rates rose 34 percent, but during last summer's severe drought, no restrictions were placed on water usage despite a record consumption.

In Culpeper, Va., where George Washington first predicted water problems in 1749—landowners worked together for 5 years to build three small dams on nearby streams to hold back floodwaters and provide reservoirs in time of drought.

The two gigantic Alaska plans would approach the problem on a national level. The first, proposed by Ralph M. Parsons Co., Los Angeles engineers and constructors, would collect surplus water from rivers in Alaska and northwestern Canada and redistribute it to the United States, Canada, and Mexico through a system of canals, tunnels, and aqueducts.

But, in the meantime, the Corps of Engineers is trying to solve some of the more urgent short-range water problems in the